

## **FCC Part 15 Certification** **Test Report**

### **900MHz Direct Sequence Spread Spectrum Radio Device**

**FCC ID: Q69MIU1000**

**FCC Rule Part: 15.247**

**ACS Report Number: 03-0100-15B**

Manufacturer: Screamer Technologies, Inc.  
Model: Screamer MIU1000

## **Installation and Operators Guide**

# **Screamer Technologies**

## ***MIU1000 Installation Manual***

“NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.”

#### **RF Exposure Information**

In accordance with FCC requirements of human exposure to radiofrequency fields, the device shall be installed such that a minimum separation distance of 20cm from the user and/or general population can be maintained

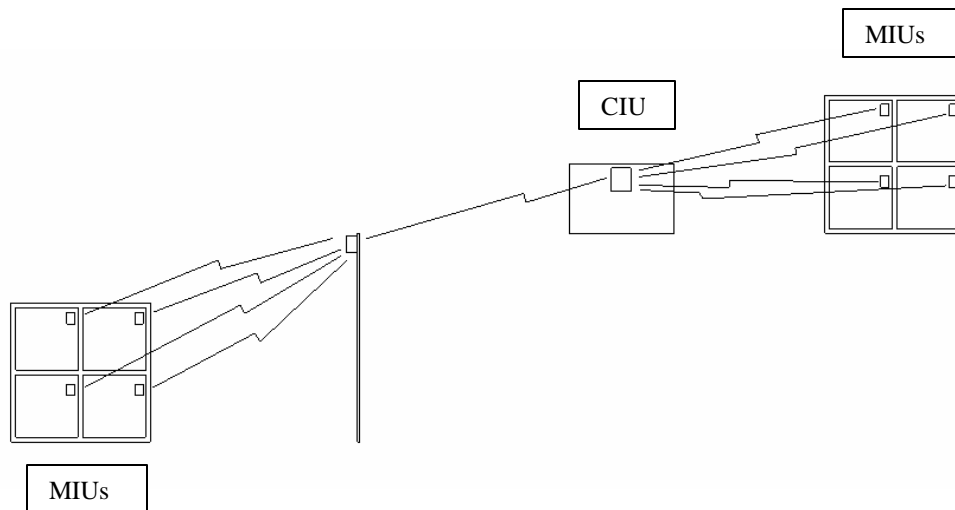
Warning: Changes or modifications to this device not expressly approved by **ScreamerTechnologies** could void the user’s authority to operate the equipment.

## Introduction

This manual is intended to instruct the installation professional on how to properly install a Screamer Meter Interface Unit (MIU). This introduction will briefly cover an overview of the entire Screamer system and it's components, of which the Screamer MIU is a part.

## System Overview

The Screamer system consists of two components: a MIU, and a CIU (collector interface unit). The MIU is attached to the meter in the building (water or gas) and reads electronically the mechanical reading on the meter. It then transmits the data from the MIU to the CIU. The CIU is where the data from all the MIUs is collected and stored for the retrieval. The CIU has a modem by which to send the information from the property to the billing department via modem.



## **System Components**

### **Meter Interface Unit**

The MIU is unlike traditional systems in that it has no receiver to listen for interrogation signals. It contains a timer and automatically transmits the meter reading data once every 8 hours. The number of transmissions per day can be modified for specific applications.

The MIU transmits on a frequency of 910-920MHz spread spectrum.

The MIU consists of a radio transmitter, antenna, three ports (2 pulse and 1 encoded) and a lithium battery with a life of 10 years based upon a selected transmission interval. The housing is enclosed by 4 secure snaps and mounted to a wall with 2 screws.

**MIU PHOTO HERE**

### **Collector Interface Unit**

The CIU collects the data sent from the. The information is stored in the CIU for retrieval via telephone modem at programmed intervals or on demand. The CIU is shipped with a power supply and requires a dedicated phone line.



## ATTACHMENT TO METER-GAS

### Gas Meter (Sonix 6)

Required tools: Phillips screwdriver, stapler, round staples, power drill, driver bit, drywall screws, step ladder

The Sonix 6 gas meter will be provided with a 6 ft cable with a connector on the end.



MIU PHOTO HERE

Remove the MIU cover and attach the gas meter cable with connector onto the Screamer board on the gas port. The connector should only be able to be placed onto the board in a specific orientation on only one connector. Connector should “snap” firmly into place.

MIU PHOTO HERE

ATTACHMENT TO METER-GAS

Locate Screamer in appropriate position by placing it as high as possible and away from any metal or potentially interfering objects without placing strain on the cable connector in the Screamer housing. The orientation of the unit should be that the wire comes out of the bottom of the unit towards the floor. Mark locating holes for mounting.



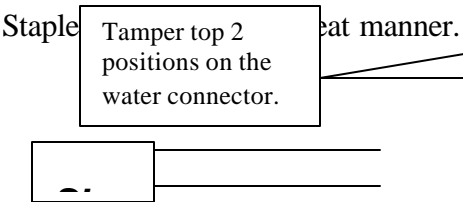
Note the MIU serial number of the unit and the apartment number. Attach unit to wall.

MIU PHOTO HERE

Serial Number

Tamper by briefly shorting the top two terminals of the water port.

MIU PHOTO HERE



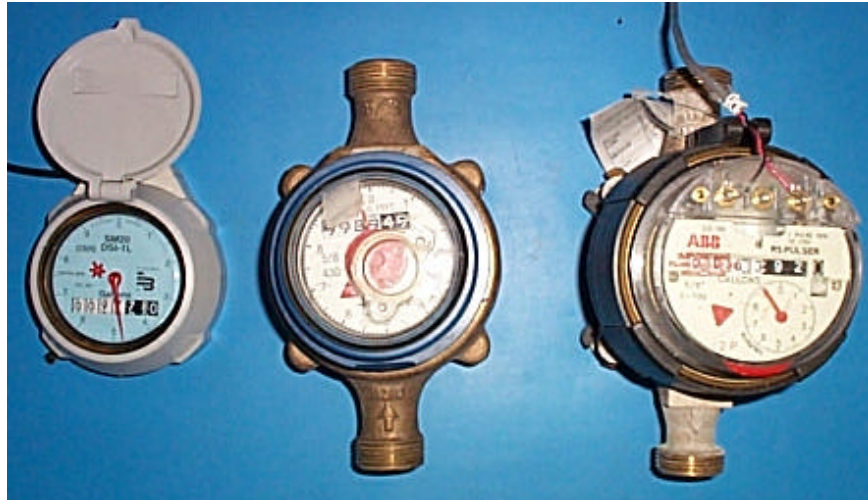


## ATTACHMENT TO METER-WATER

### Water Meter

Required tools: Phillips screwdriver, stapler, round staples, power drill, driver bit, drywall screws, step ladder, wire strippers, small flat screwdriver

Water meters are provided with a length of cable for attachment to AMR devices. (length varies by order and manufacturer) Examples below:



MIU PHOTO HERE

Attach the water meter cable to the water port. The ends of the wire must first be stripped and then place the appropriate line in the appropriate terminal.

MIU PHOTO HERE

Locate Screamer in appropriate position by placing it as high as possible and away from any metal or potentially interfering objects without placing strain on the cable connector in the Screamer housing. The orientation of the unit should be such that the wire comes out of the bottom of the unit towards the floor. Mark locating holes for mounting.

## ATTACHMENT TO METER-WATER



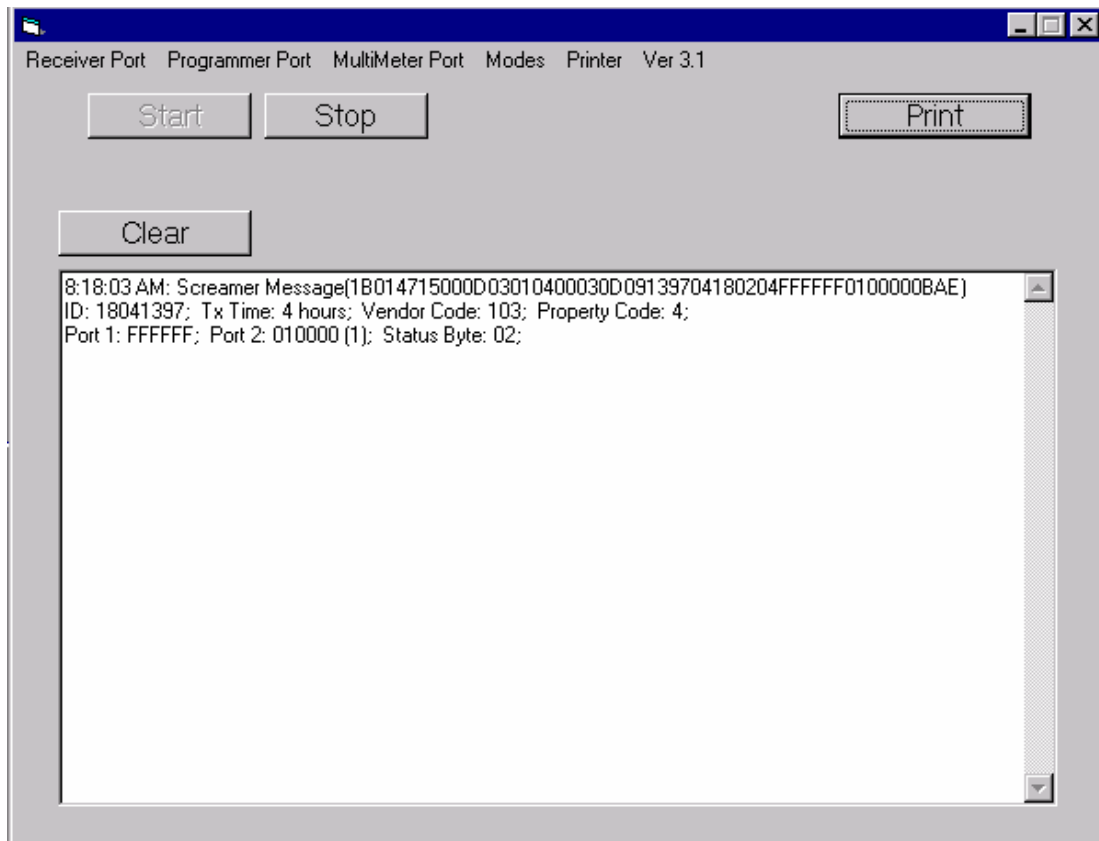
Note the MIU serial number of the unit and the apartment number. Attach unit to wall.

MIU PHOTO HERE

Serial Number

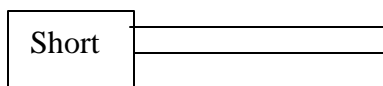
Tighten screws. Make sure serial number appears on screen of field test software and matches the printed serial number (if number doesn't appear, tamper water meter connector to get transmission).

MIU PHOTO HERE



Tamper by briefly shorting the top two terminals of the water port.

MIU PHOTO HERE



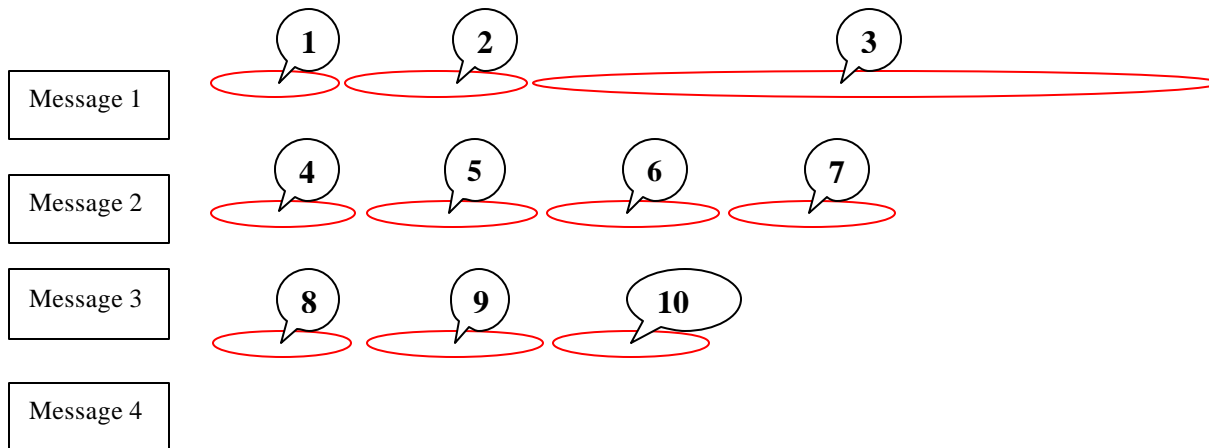
According to the type of meter, run the appropriate amount of water and then re-tamper to ensure the MIU has advanced.(10 gallons usually)

Staple line to wall in a neat manner.

## Field Test Software Description

This capture shows how a Screamer message would appear if it had a gas meter attached and was talking to the CIU.

Field SW PhotoHERE



The first message is the message received by the CIU. The first line of this message contains: 1)the time of transmit; 2)which device received it (Screamer Message means the CIU received this message); 3)?. The second line of the message contains: 4)the serial number of the MIU; 5)how often it transmits (in this case 4 hours); 6)vendor code; 7)property code. The third line of this message contains: 8)Port 1 reading (this means this is the reading of the gas meter); 9)port 2 reading (there is no reading for this port which means there is no water meter attached); in parenthesis with the port 2 reading is the count of the water meter reading (if this had a water meter attached, the number in parenthesis would match that of the water meter mechanical reading or would be advancing per the water usage); 10)status byte

## Field Test Software Setup

1. Connect portable CIU to COM port1 on laptop
2. Open laptop and turn on
3. After boot up, double click USI software icon
4. When program appears on screen, set the Receiver Port to COM port1
5. Next, set the Modes to Continuous and Test
6. Start the program by clicking the Start program once

To test the software, tamper a MIU. A message should appear with the serial number of the MIU.

ATTACHMENT TO METER-WATER